| Notice of Allowability | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/773,668 | KEIM ET AL. | |
| | Examiner | Art Unit | |
| | CUONG H. NGUYEN | 3661 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment filed on 1/31/2007*.

2. ☒ The allowed claim(s) is/are *1-2,5-13, they are renumbered as claims 1-11. Formal drawings are accepted*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☒ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   **Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 2/06/04
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

CUONG H. NGUYEN
Primary Examiner
Art Unit: 3661

## *DETAILED ACTION*

1. This Office Action is the answer to the amendment received on 1/31/2007, which paper has been placed of record in the file.

2. Claims 1-13 are pending in this application; wherein claims 12-13 are new, and claims 3-4 have been canceled.

### *Priority*

3. This application claims a Germany priority (103 04 711.5) of 06 Feb. 2003.

### *Information Disclosure Statement*

4. The submitted IDS filed on 2/06/2004 is considered.

### *Allowable Subject Matter* & **Reasons for Allowance**

5. Independent claim 1 is patentable distinct over closest reference Baumann et al. (DE 19963153 A1) because Baumann et al. omit a teaching about a method for controlling an electromagnetic valve, comprising:

- altering a clock frequency of the trigger signal by the control device as a function of a performance quantity of the electromagnetic valve, the clock frequency being a function of a set point valve current through the coil and an actual valve current through the coil, wherein the clock frequency at a first set point valve current and the actual valve current is greater than that at a second set point valve current and the actual valve current; and the transfer cross section at at least one of the first set point valve current and the actual valve current is smaller than that at at least one of the second set point valve current and the actual valve current.

6. Independent claim 12 is patentable distinct over closest reference Baumann et al. (DE 19963153 A1) because Baumann et al. omit a teaching about a method for controlling an electromagnetic valve, comprising:

altering a clock frequency of the trigger signal by the control device as a function of a performance quantity of the electromagnetic valve, and superimposing on the trigger signal a heterodyne signal having a smaller heterodyne frequency in comparison with the clock frequency.

Baumann teaches an inductive component, which receives supply voltage has a serial measurement resistance and has its current flow controlled by a control circuit that generates pulse width modulation (PWM). This circuit is connected in parallel to the resistance is a low pass filter. The time constant of the low pass filter is chosen so that it matches the controlling frequency of the PWM. Existing current measurement circuits comprise an array of shunt resistances that require a very accurate differential amplifier. Baumann's invention provides a different way of economical measurement circuit.

7. Dependent claims 2, 5-11, and 13 are patentable because of dependencies of independent claims 1, and 12 (in that order).

***Conclusion***

8. Claims 1-2, and 5-13 are patentable. Claims 10-13 are renumbered as 3-4, 10 and 11.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG H. NGUYEN whose telephone number is 571-272-6759 (email address: cuong.nguyen@uspto.gov). The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THOMAS G. BLACK can be reached on 571-272-6956. The Rightfax number for the organization where this application is assigned is 571-273-6759.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Please provide support, with page and line numbers, for any amended or new claim in an effort to help advance prosecution; otherwise any new claim language that is introduced in an amended or new claim may be considered as new matter, especially if the Application is a Jumbo Application.

cuonghnguyen

CUONG H. NGUYEN
Primary Examiner
Art Unit 3661